

Date: Wednesday, 3/8/2006 10:38:05 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHUT-OFF VALVE SHAFT
Job Number	: 26113 - 2		
Estimate Number	: 12182		
P.O. Number	: N/A	Part Number	: D34693
This Issue	: 3/8/2006 S.O. No. : N/A	Drawing Number	: D3469 REV.A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : PURCHASED PARTS	Drawing Revision	: A
Previous Run	: N/A	Material	: N/A
Written By	: SEE COMMENT BELOW	Due Date	: 3/31/2006
Checked & Approved By	: [Signature] 06.03.08	Qty:	10 Um: Each
Comment	: est rev A 06.02.06 new issue EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	OUTSIDE SERVICE	OUTSIDE SERVICES
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Comment: Sub-Contracting OUTSIDE SERVICES
 Issue P/O: 00000768
 Email or Ship DXF file to vendor
 Laser Cut per Dwg D3469 flat pattern D3469-3F
 Material release note required

2.0	D34693 F	UPPER PLATE BENDING DETAIL
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 6.0000 Each(s)
 ARM

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1
 Receive & Inspect For Transit Damage
 Ensure material certification is attached

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1
 1-Deburr if necessary
 2-form outer flange as per dwg D3469 using DT8851
 3-form oval flanges per dwg D3469 using DT8850

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06/04/26	6 8	NO longer electeo. Polish Remove Step.						

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: Date: 06/04/26
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 3/8/2006 10:38:05 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHUT-OFF VALVE SHAFT

Job Number: 26113

Part Number: D34693

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06/04/24 (8)

7.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: _____

Electro Chemically Polish as per Dwg D3479

Ensure Certificate of Conformity is attached

N/A 06.03.08

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

06/04/25 (8)

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/04/26 (8)

Job Completion



06/04/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

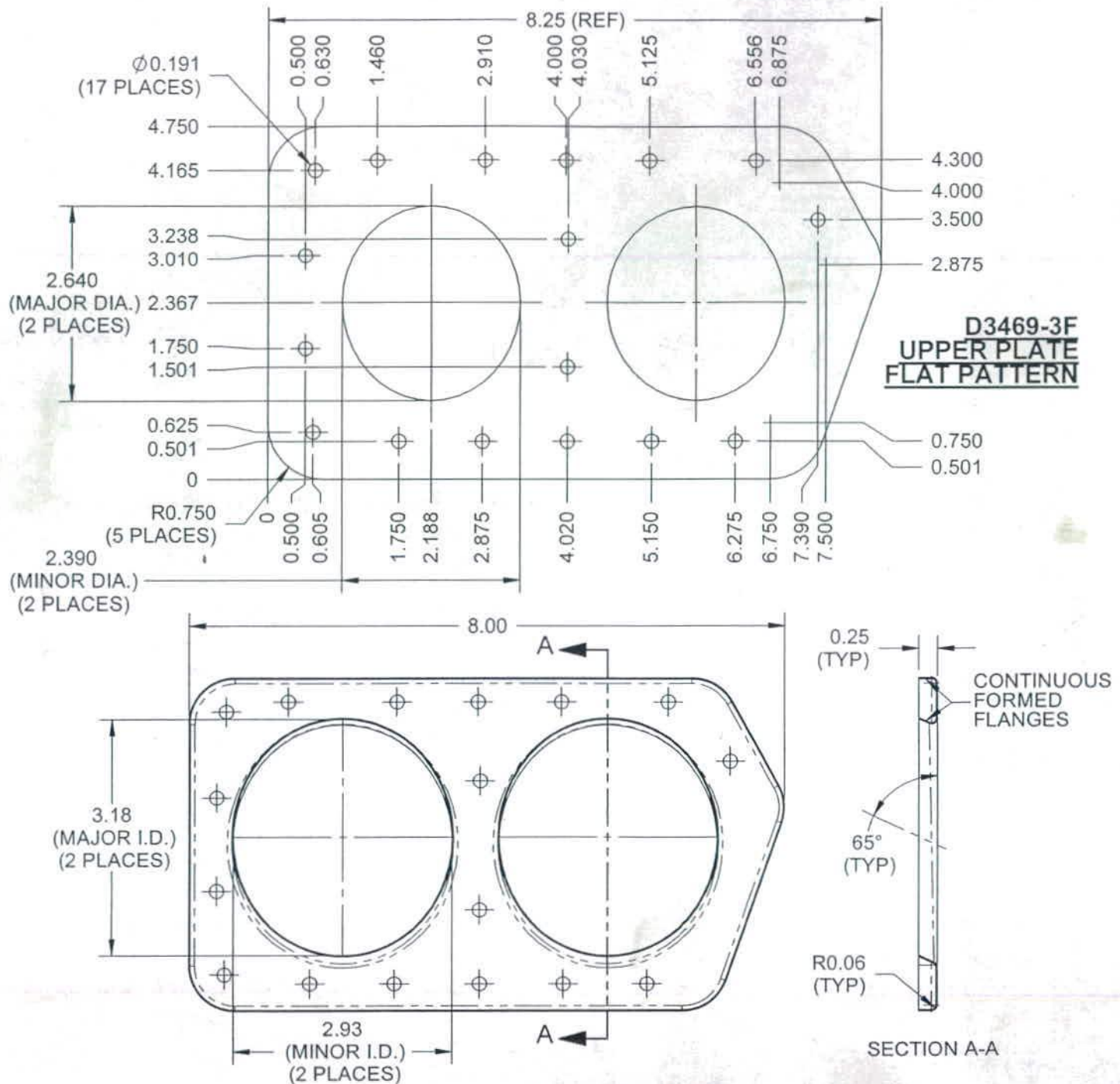
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

PRELIMINARY ISSUE

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3469	REV. A SHEET 4 OF 5
DATE 05.12.09	TITLE SHUT-OFF VALVE ASS'Y		SCALE 1:2



NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH
26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
- 2) FINISH: ELECTRO-CHEMICALLY POLISH
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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MAY-17-2006 16:05

FROM INTEGRIS

253-289-3698

T-726 P.007/016 F-597


INDUSTRIAL LASER P.O. - 110880 S.O. - 374786 ITEM 01 - 3 SHEETS

		AK Steel Corporation Metallurgical Test Report Construction Works Coshocton, OH 43812		Page 1 Lead No. 210672 Ser No. 210672							
		INTEGRIS METALS PO BOX 340 MARIETTA, OH 45750		INTEGRIS METALS 306 W. STREET ALBANY, WA 98001							
C U S T O M E R INTEGRIS METALS PO BOX 340 MARIETTA, OH 45750		S H I P T O ALBANY, WA 98001		MILL ORDER NO. 77185-0191 PART NO. 77185-0191 PROCTORS ORDER NO. 42716-01 INVENTORY ORDER NO. 42716-01							
SKID ID SK0713143 SK0713144 SK0713145 SK0713146 SK0713149 TOTAL SKIDS 4		PIECE 1 1 1 1 1 4		HEAT 718501 718501 718501 718501 718501 718501							
PARENT COIL ID 426183, 4012 KG. 470183, 4012 KG. 425183, 4012 KG. 426183, 4012 KG. 426183, 4012 KG. TOTAL NET WEIGHT 3441 LB. 1608 KG.		NET WEIGHT 426183, 4012 KG. 470183, 4012 KG. 425183, 4012 KG. 426183, 4012 KG. 426183, 4012 KG. TOTAL NET WEIGHT 3441 LB. 1608 KG.		426183, 4012 KG. 470183, 4012 KG. 425183, 4012 KG. 426183, 4012 KG. 426183, 4012 KG. TOTAL NET WEIGHT 3441 LB. 1608 KG.							
L.A. Analysis of Heat P-Product Analysis of Parent Coil CHEMICAL ANALYSIS											
ID	C	MIN	P	S	SI	CR	NI	MO	N	CU	CO
L 718151	0.49	1.39	0.27	0.01	.35	1.8, 1.8	8.05	.35	.04	.30	.12
SHIPPING DATE: 09/14/2005 REMARKS: NO INTENTIONAL ADDITIONS OF MERCURY OR MERCURY COMPOUNDS, RADIUM, ALPHA SOURCE, AND LOW MELTING ALLOYS OR ELEMENTS CAPABLE OF FORMING LOW MELTING ALLOYS WERE MADE THROUGHOUT THE PROCESSING OF THIS MATERIAL. PRODUCT DESCRIPTION CR. SET TYPE 304 STAINLESS STEEL FINISH SLIT EDGE 4 AMS BOLD 8 ALL EDGE BERS HAVE BEEN HOT UNWINDING ROLLED TO CR. NOTED OVERSIZING 4 2 STM 240 -04 EX PARA 3.1.3 BOLDING WILL BE DETERMINED BY LATE 8 9 4 RATE 4 400 -01 EX PARA 19.1.1 BOLDING WILL BE DETERMINED BY LATE 4 8 8 EX PARA 20.1.1.3 COIL WILL BE TAGGED ON ORIGIN ONLY 4 ASME 8 666 -03 4 DR-011 Rev 0, 4 DR-011 0 4 RYERSON PART# 78251487 4 ASME SA-240 SECTION II PART B (2001 ED., 2002 AMEND.) EX PARA 3.1.3 BOLDING WILL BE DETERMINED BY LATE 8 8 4 DR-10204 3.1.3											
PARENT COIL	FOR	ONE	CONO	S.E. LONG	TENSILE	Y.S.	ROCKWELL	ROCKWELL			
ID	(E79)	(L, T, D)	2 INCH	STRENGTH	(KSI)	(KSI)	HARDNESS	HARDNESS			
426183-02	T	T	14.5 X 16 X 1.3	426183	120.2	127.1	12	74			

*** CONTINUED ON NEXT PAGE ***

604-946-483
 ATTN: PETE

3/17/06

		AK Steel Corporation Metallurgical Test Report Coshocton Works Coshocton, OH 43812		Page 2							
				Lot# No. 7410672 SRN No. 7410672							
C U S T O M E R I N F O R M A T I O N	INTEGRIS METALS PO BOX 150 MINNEAPOLIS, MN 55440		S H I P T O	INTEGRIS METALS 306 "B" STREET AUBURN, WA 98001		MILL ORDER NO. 172345-0191 PART NO. 74251497 ENGLISH UNITS - PRODUCT - METRIC UNITS .0175 NOM 48.000 X COIL	PROCESSOR ORDER NO. 427136-01	BUYERS ORDER NO. 427136-01			
PARENT COIL ID	POS (W/T)	DIR (L, T, D)	COND	ASTM A 262 FRACTURE	BEND 180 IT						
0549919-02	T		ASTM	PASS	PASS						
PARENT COIL ID	POS (W/T)	DIR (L, T, D)	COND	%ELONG 2 INCH MEASURED	TENSILE STRENGTH (KSI)	Y.S. 2% OFFSET (KSI)	ROCKWELL HARDNESS T ₀₁	ROCKWELL HARDNESS Front			
0549919-02	F	T	ASTM	71.0	92.8	33.1	B 72	B 74			
PARENT COIL ID	POS (W/T)	DIR (L, T, D)	COND	BEND 180 IT							
0549919-02	F		ASTM	PASS							
<p>THE CHEMICAL ANALYSIS AND PHYSICAL OR MECHANICAL TESTS REPORTED ABOVE ARE CORRECT AS CONTAINED IN THE RECORDS OF THIS CORPORATION.</p> <p>ALL TESTING IS DONE IN ACCORDANCE WITH ASTM STANDARDS (UNLESS OTHERWISE NOTED)</p> <p>AK Steel Corporation MAY-17-2006 16:05</p>											
<p>THIS CERTIFIED TEST REPORT HAS BEEN DELIVERED TO A CONSUMER OF MATERIAL PURCHASED FROM AK Steel Corporation. TO AVOID THE POSSIBILITY OF ITS MISUSE ON DELIVERY OF THE REPORT TO A THIRD PARTY IT MUST BE RECAPTURED BY AND UNDER THE NAME OF SUCH CONSUMER.</p> <p>WITNESSED: <i>Justin Rayson</i> DATE 05/19/2006 TIME 19:42 PM</p> <p>APPROVATION: <i>Justin Rayson</i></p>											

MATERIAL TEST REPORT

From: NORTH AMERICAN STAINLESS CANADA, IN
740 IMPERIAL ROAD NORTH

Page : 1
Heat/Lot : 86K9
TIN : B42748

Sold To: INTEGRIS METALS, LTD.
7910 40TH STREET SE
CALGARY, AB T2C2Y3

Ship To: ***CUSTOMER PICKUP***
4375 14TH STREET NORTHEAST
CALGARY
ABT3E7A9

Vendor Information

Cust PO #: 406824

Cust PO DT: 11/03/05

Specifications

STAINLESS STEEL SHEET, COLD ROLLED, ANNEALED AND PICKLED.
ASTMA240/04a 480/04a, 666/03, ASMESA240/04-A05, 480/04-A05, SA666/04
Q08766D-A X 1/8 PRM, AMS5513H X MRK&FIN, MIL5059D, AMD3, X CRWN MEAS
CORROSION: ASTM A262/02aB; 180Bend-OK
Buyer Part: 4288441
304 2B .1305 IN 48 IN 96 IN
Country of Origin: UNITED STATES

Mechanical Tests

		UOM	L	O	UOM	L	O
Yield Strength - 0.2% Offset	40	KSI	F	TRANSV			
Tensile Strength (UTS)	93.3	KSI	F	TRANSV			
Rockwell B	85		F	TRANSV			
Pct Uniform Elong 2 In/50mm	57.01	PCT	F	TRANSV			
Rockwell A	85		T	TRANSV			

Chemical Composition

C Carbon-Pct	.059	CR Chromium-Pct	18.360
CU Copper-Pct	.342	MN Manganese-Pct	1.643
MO Molybdenum-Pct	.285	N Nitrogen-Pct	.037
NI Nickel-Pct	8.150	P Phosphorus-Pct	.029
SI Silicon-Pct	.289		

Comments

004
003/004
001

INDUSTRIAL LASER CUTTING
INTEGRIS METALS

03/17/2006 14:37 FAX 604 946 4153
046220/2015 08:27 FAX

MATERIAL TEST REPORT

From: NORTH AMERICAN STAINLESS CANADA, IN
740 IMPERIAL ROAD NORTH

Page : 2
Heat/Lot : 86K8
TIN : B42748

Material free from mercury contamination. No weld repairs.
EN 10204 3.1 PED 97/23/EC Annex1, Para. 4.3 QQS763F Cond A
This document certifies the material has been tested in
accordance with applicable specifications described herein
and has met those requirements.

QA by ERIC HESS 02/01/2006

Miscellaneous Data

GUKLPH, OMN: K123
Control #: 50C60214
Part #: 74271441
.135 X 48 X 96

Date: 03/17/06

SOLD TO: INDA LAFER

TO 110880

S/O 90-374786 - 02

[Signature] 3/17/06

The Chemical Analysis and Mechanical Test
data was received via EDI from the above
mentioned vendor.

INTEGRIS METALS, LTD.

Date: Wednesday, 3/8/2006 10:38:05 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHUT-OFF VALVE SHAFT
Job Number	: 26113 - 1	Part Number	: D34693
Estimate Number	: 12182	Drawing Number	: D3469 REV.A
P.O. Number	: N/A	Project Number	: N/A
This Issue	: 3/8/2006 S.O. No. : N/A	Drawing Revision	: A
Prsht Rev.	: NC	Material	: N/A
First Issue	: N/A Type : PURCHASED PARTS	Due Date	: 3/31/2006
Previous Run	: N/A	Qty:	10 Um: Each
Written By	: SEE COMMENT BELOW		
Checked & Approved By	: [Signature] 06.03.08		
Comment	: est rev A 06.02.06 new issue EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	OUTSIDE SERVICE	OUTSIDE SERVICES
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Comment: Sub-Contracting OUTSIDE SERVICES *AL 06/03/09*
 Issue P/O: 00000768
 Email or Ship DXF file to vendor
 Laser Cut per Dwg D3469 flat pattern D3469-3F *AL 06/03/09*
 Material release note required

2.0	D34693 F	UPPER PLATE BENDING DETAIL
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 6.0000 Each(s)
 ARM

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1
 Receive & Inspect For Transit Damage
 Ensure material certification is attached

AL 06.03.22 (10)

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

AL 06.03.22 (9) PT

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1
 1-Deburr if necessary
 2-form outer flange as per dwg D3469 using DT8851
 3-form oval flanges per dwg D3469 using DT8850

AL 06.03.22 (1)

Process Sheet

CU-DAR001 Dart Helicopters Services

Drawing Name: SHUT-OFF VALVE SHAFT

Number: 26113

Part Number: D34693



Machine Or Operation:

Description:

6.0

QC5

INSPECT WORK TO CURRENT STEP



06.03.30 ①

Comment: INSPECT WORK TO CURRENT STEP

7.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: _____

Electro Chemically Polish as per Dwg D3479

Ensure Certificate of Conformity is attached

N/A

06.03.08

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

06.03.30 ①

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06.03.31 ①

Job Completion



06.03.30

